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Appendix XX. Regional Residential Education Program

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REGIONAL RESIDENTIAL EDUCATION PLAN

Submitted by the San Diego Stormwater Copermittees in partial fulfillment of the requirements of San Diego Regional Water Quality Control Board Order No. R9-2007-0001 (the San Diego Municipal Stormwater Permit)

1 **1.0   INTRODUCTION**

2 The Regional Residential Education Program is a joint effort by the Copermittees of the

3 Municipal Stormwater Permit (Order No. R9-2007-0001, NPDES No. CAS0108758).

4 The Regional Residential Education Plan (Plan) contains recommended strategies for the

5 successful development and implementation of the Regional Residential Education

6 Program. Per section F.1 of the Permit, as amended by Addendum No. 1 on December

7 12, 2007, this program must be collaboratively developed and implemented by March 24,

8 2008.

9

10 In the past, Copermittees have been limited in their ability to pursue strategies which may

11 have a much greater potential to influence knowledge and behavioral change in

12 residential populations. There are several benefits to implementing an enhanced regional

13 program to target residential sources of stormwater pollution. First, it will encourage the

14 development of consistent messages throughout the region. Second, a regional approach

15 will enable Copermittees to better leverage resources and utilize economies of scale.

16 Finally, stormwater and urban runoff pollution frequently cross jurisdictional boundaries,

17 making collaborative approaches a necessity. While the regional program will be

18 coordinated extensively among the Copermittees, it is not meant to supplant the

19 jurisdictional and watershed programs.

20

21 The overall goals of the program are to increase awareness and knowledge, improve

22 attitudes toward stormwater pollution and provide a foundation for changing behaviors

23 that contribute to stormwater pollution. Based on extensive input from the Copermittee

24 Regional Stormwater Management Committee (RMC) and the Education & Residential

25 Sources Workgroup, as well as an independent analysis of existing educational efforts,

26 the following objectives were developed to support these goals:

27

28   1. Maintain a consistent image, message, and brand

29   2. Use positive messages to increase knowledge and awareness, and ultimately

30   change behavior

31   3. Develop community partnerships to leverage resources

32   4. Develop assessment strategies for program effectiveness

33

34 The Regional Education & Residential Sources Workgroup advises the RMC on regional

35 shared outreach activities as necessary to support the requirements of the Permit. The

36 Education & Residential Sources Workgroup plans, develops, and implements the

37 various aspects of the stormwater education program. Education & Residential Sources

38 Workgroup participants have traditionally combined efforts to reach business, industrial,

39 and residential communities across the San Diego region. However, in accordance with

40 the most recent NPDES Permit, this Plan represents a distinct effort to target residential

41 sources of stormwater pollution.

42

43 Messages developed by the Education & Residential Sources Workgroup are designed to

44 increase knowledge and awareness of regional stormwater issues and encourage positive

45 changes in behavior. Assessment methods and measures have also been developed to

46 evaluate the effectiveness of these messages and the strategies used to deliver them.

47 Program evaluation methods and strategies will evolve as various program elements are

48 implemented. Regional assessment methods will measure knowledge, awareness, and

49 attitudes of residents. Program elements that are determined to be ineffective or least

50 effective will be replaced by more effective elements or improved upon as needed. The

51 regional program will also facilitate the measurement of changes in pollutant generating

52 behaviors by the jurisdictional and watershed programs.

53

54 As a basis for developing this Regional Residential Education Plan, the Copermittees

55 contracted with TRG & Associates to develop *Recommended Options for the San Diego*

56 *Regional Stormwater Educational Program*. This document contains a number of

57 recommended strategies for the successful development and implementation of a regional

58 residential education program. It includes an extensive literature review, an analysis of

59 existing educational programs in San Diego, and a comprehensive list of public

60 awareness surveys. The literature review outlines other programs in the State that have

61 successfully implemented regional residential stormwater education programs. The

62 document also summarizes the strengths and weaknesses of existing residential education

63 efforts, provides suggestions for how they can be improved, provides a brief analysis of

64 baseline public awareness surveys that have been implemented locally within the last five

65 years, and offers recommendations for improving assessment methods and survey

66 instruments.

67

68 **2.0   SOURCE CHARACTERIZATION**

69 The San Diego region occupies 4,261 square miles with a population of approximately 3

70 million people.   Estimates for the year 2007 indicate that the San Diego regional

71 population is 29% Hispanic and 71% non-Hispanic.   Non-Hispanic persons include

72 African Americans, American Indians, Native Hawaiians, Asians, and persons of a

73 multitude of races, ethnicities, and cultures.   SANDAG currently estimates that the

74 median household income in the San Diego region is $68,388.   According to the US

75 Census Bureau in 2004 only 10.9% of San Diego's population was living below the

76 poverty level, compared to 13.2% Statewide.   Other estimates indicate that as much as

77 25% of California's population is living below the poverty level.   Much of the region's

78 quality of life revolves around the water resources.

79

80 Residential areas have been shown to be a prevalent source of urban runoff in the San

81 Diego region, although less than ten percent of the region is developed as residential land.

82 Most of the urban activity is clustered in the western third of the county, near coastal

83 areas.   However; residential land–based activities throughout the entire region contribute

84 to polluted stormwater runoff.

85

86 The Regional Residential Education Program will focus efforts on high priority

87 residential pollution sources that are common throughout the San Diego region.   Water

88 quality monitoring data and source characterization studies have provided the

89 Copermittees with useful information in determining regional residential sources of

90 stormwater pollution and constituents of concern.   Regional threats to water quality were

91 initially outlined in the Report of Waste Discharged and finalized in the Permit.   Section

92 F.1.a of the Permit describes the process for determining which pollutants will be
93 addressed by the program.

94 **2.1.   Regional Constituents of Concern**

95 The following constituents of concern were determined to be the primary pollutants from
96 residential sources for the San Diego region:

97 • Bacteria

98 • Nutrients

99 • Sediment

100 • Pesticides

101 • Trash

102

103 Some jurisdictions may have additional high priority pollutants. Each jurisdiction will be
104 individually responsible for addressing additional pollutants and their sources. The
105 pollutants listed above will remain the focus of the Regional Residential Education
106 Program.

107

2.2. Pollutant-generating Activities and Constituents of Concern

Table 1 outlines residential pollutant generating activities and associated constituents of concern generated by residential areas in the San Diego region.

Table 1) Pollutant Generating Activities

Pollutant Generating Activities	Priority Constituents				
	Bacteria	Nutrients	Pesticides	Sediments	Trash
• Leaving pet waste in yard, street or sidewalk • Improper disposal of pet waste	X	X			
• Over-irrigation • Improper irrigation and system maintenance	X	X	X	X	
• Fertilizer use • Pesticide use • Landscaping activities	X	X	X	X	
• Cleaning outdoor impervious surfaces (i.e., driveways and patios)	X	X		X	X
• Improper waste disposal	X	X	X	X	X

112

2.3. Target Audiences

As described above, this program is intended to address the entire residential community of the San Diego region. This residential audience will be further described in terms of two specific target audiences in order to design more effective education and outreach strategies. The target audiences for the Regional Residential Education Program have been identified based on information gathered by the consultant (TRG and Associates), who utilized data from market research conducted by the County and City of San Diego and surveys gathered from other case studies. Although there may be other smaller groups of target audiences, regional outreach must realistically target the highest priority demographics in order to effectively utilize program funds. The following describes the target audiences for the campaign:

1. Primary Target Audience- English speaking residents and homeowners

125   2. Underserved Target Audience- Spanish speaking communities and Low
126   Socio-Economic Status (SES)

127

128 One of the challenges of program implementation will be to develop messages that
129 appeal to these communities. While creating content and developing materials for the
130 primary target audience may be relatively straightforward, methods and approaches will
131 need to be modified in order to engage the Underserved Target Audience. For example;
132 some messages will be more conducive to translation into the Spanish language than
133 others. Once translated, Spanish language media will be used to disseminate these
134 messages.

135

136 According to the US Census Bureau, 33% of San Diego County residents speak a
137 language other than English at home (2000). The same data indicates that 26.7 % of the
138 regional population is Hispanic or Latino. Although this number varied within
139 jurisdictions from 49.5% in Chula Vista to 11.7% in Carlsbad, it is clear that every
140 jurisdiction in the region has significant populations of Hispanic or Latino residents.
141 Therefore, although there are many languages spoken in San Diego, Spanish speaking
142 communities are likely the most common throughout the region.

143

144 Research indicates that the motivating factors in Spanish speaking communities are 1)
145 health and commitment to family, 2) children, and 3) finances. Similar priorities are
146 found within the low SES communities. Hence, some messages will resonate more
147 strongly with the communities among the Underserved Target Audience. Other messages
148 may need to be modified in order to create a more appealing campaign. Low SES in
149 California is defined as household annual income less than $25,000. Low SES residents
150 tend to obtain information and resources from different sources than the residents within
151 the Primary Target Audience. Again, message delivery becomes a key issue. In order to
152 address all of these issues, specific outreach strategies will need to be developed in order
153 to effectively reach the Underserved Target Audience.

154

155 **3.0 TARGETED CHANGES TO KNOWLEDGE, AWARENESS AND**
156 **BEHAVIOR**

157 The overall goals of the Regional Residential Education Program are to raise the levels of
158 knowledge and awareness with regards to stormwater pollution among residents, while
159 encouraging changes to behaviors that are harmful to San Diego's waterways. The
160 program will generally educate residents on 1) The difference between stormwater
161 conveyance systems and sanitary sewer systems 2) the connection of storm drains to local
162 waterways and 3) common residential sources of urban run-off. These are the general
163 knowledge and awareness concepts upon which more specific messages will be built.

164

165 Recent research indicates that many residents do not understand that storm drains and
166 sanitary sewer systems are completely separate. While sewage is treated, everything that
167 goes down a storm drain goes directly to a creek, bay, or the ocean. The City of San
168 Diego conducted a public opinion survey in 2007 in which 91% of respondents said they
169 had heard the term "storm drain" before. However, only 46% knew that the water
170 entering storm drains is not treated. This is a fundamental stormwater pollution
171 prevention issue and general awareness concept. Awareness of the stormwater
172 conveyance system is the first step towards understanding pollution prevention.
173 Increasing knowledge and awareness that the system leads directly to local waterways
174 will help residents to understand that urban sources of pollution have a direct effect on
175 water quality. The awareness and knowledge of these issues are precursors to
176 adjustments in attitudes (i.e.: increased concern for preventing this type of pollution).

177

178 Ultimately, it is anticipated that the program's targeting increased awareness and
179 knowledge of these concepts will lead to positive changes in attitude. Furthermore,
180 improved attitudes toward the importance of stormwater issues can provide motivation
181 for changing pollutant generating behaviors.

182

183 In keeping with the program goals, the Copermittees have agreed on a number of positive
184 behavior outcomes for each stormwater issue presented to the target audience. Pollutant
185 generating activities are listed in Table 2, along with the knowledge required to

186 understand the significance of the stormwater impacts. Also listed are numerous

187 examples of desired behavior outcomes. Since it may not be feasible to craft messages

188 that address each of the desired behavior outcomes listed in Table 2, some behaviors may

189 be considered primary and targeted before others. Secondary behaviors will be targeted

190 only if the initial efforts are determined to be unsuccessful. It is important to recognize

191 that the Copermittees agreed on these issues and the associated behaviors, and some may

192 wish to further utilize the concepts listed in Table 2 in their jurisdictional and/or

193 watershed programs.

194

195 **Table 2) Pollutant Generating Activities and Examples of Positive Behavior**

Pollutant Generating Activities	Knowledge/Awareness	Examples of Desired Behavior Outcomes
• Leaving pet waste in yard, street or sidewalk • Improper disposal of pet waste	Pet waste left in the yard and streets may introduce solids, bacteria, and nutrients to the storm drain and/or receiving water bodies.	• **Pick up pet waste during walks** • Pick up pet waste around home • **Properly dispose of pet waste in trash can or bin**
• Over-irrigation • Improper irrigation and system maintenance	Over-irrigation causes water and pollutants in its path to run into the storm drain and/or receiving water bodies.	• **Reduce over-irrigation** • Use irrigation controller technology to reduce the amount of over-watering • **Inspect and maintain irrigation system regularly** • Adjust irrigation schedule according to seasonal changes
• Fertilizer use • Pesticide use • Landscaping activities	Fertilizers and pesticides become pollutants that can be harmful to natural ecosystems when entering receiving water bodies. Soil, sediment, and yard waste can clog storm drains and/or receiving water bodies.	• Use plants that reduce the need for fertilizers (i.e.: native plants) • Apply chemical fertilizers and pesticides only as needed and at the appropriate time • **Use organic or slow-release fertilizers** • **Use Integrated Pest Management** • Store chemicals inside in a shed or storage cabinet where they are protected from rainfall • **Collect grass clippings and yard waste** • **Dispose of grass clippings and yard waste in the proper containers** • Protect exposed soil from rain with a tarp, vegetation, and/or mulch
• Cleaning outdoor impervious surfaces (i.e.: driveways and patios)	When it rains, trash, dirt, and chemicals that have built up on these surface can run into the street, the storm drain, and eventually local waterways.	• **Clean driveways, walkways, and patios by sweeping instead of hosing** • Direct wash water to soak in to lawn or garden
• Improper waste disposal	Litter and debris dropped on the ground will be washed into storm drains and local water bodies.	• **Put litter and cigarette butts in trash cans or bins** • Keep lids closed on trash cans or bins

196

197 Although many positive behaviors have been identified that may be encouraged by the
198 messages developed in this program, the following have been selected as the primary
199 desired behaviors to result from the changes to knowledge, awareness, and attitudes:

200 • Pick up pet waste and properly dispose of in trash can or bin

201 • Reduce over-irrigation by regularly inspecting and maintaining irrigation systems

202 • Reduce fertilizer use by applying chemical fertilizer only as needed and using organic
203   or slow-release fertilizers

204 • Reduce chemical pesticide use through Integrated Pest Management

205 • Collect grass clippings and yard waste and place them in the appropriate disposal
206   container in order to prevent them from entering the storm drain systems

207 • Sweep up outside areas such as driveways, walkways, and patios instead of hosing
208   them down

209 • Put litter and cigarette butts in trash cans or bins

210

211 Specific messages will be designed to increase knowledge and awareness, and therefore
212 encourage the behaviors listed above. Regional messages will be initially developed to
213 address only the primary targeted behaviors. Once a baseline is established and program
214 implementation is underway, Copermittees will have the opportunity to evaluate the
215 knowledge, awareness, and willingness of the residential target audiences to adopt these
216 behaviors. Other positive behaviors from Table 2 may also be substituted, if necessary.
217 It can reasonably be expected that the regional program will be able to measure success
218 in terms of increasing knowledge and awareness, and improving attitudes, of residents.

219

220 Knowledge describes the accuracy of one's beliefs and awareness indicates recognition
221 of the severity of the issues whereas attitude can be described as an individual's
222 evaluation of it (favorable or unfavorable).

223

224 As a result of the regional efforts, Copermittees expect to see an increase in the general
225 awareness of storm drain systems and their connection to local waterways, as well the

226   sources of urban run-off. Specifically, residents should understand the difference between

227   the stormwater conveyance system and sanitary sewer systems. They should become

228   aware that water entering storm drains flows untreated to local waterways. Residents

229   should also be able to accurately identify sources of stormwater pollution (i.e.: pet waste).

230   Attitudes toward stormwater pollution should also improve.   Ideally, there will be an

231   increase in the numbers of households or individuals engaging in the desired behavior

232   outcomes as a result of their increased knowledge and awareness. These targets will be

233   measured using the assessment methods described in Section 6.0.

234

235   The primary assessment tool will be the public opinion surveys. A baseline regional

236   residential telephone survey will be conducted in 2008 and, ideally, at one other point

237   during the current permit cycle. The numeric objectives for survey results are set so that

238   they exceed the statistical margin of error of 2.5 percent (assuming a sample size of 1000)

239   so that if they are achieved, they will be statistically significant. In addition, the objectives

240   are intentionally set high, with the understanding that they are intended as a point of

241   reference rather than a pass/fail measure. With that in mind, Copermittees have set a

242   target of a 10% change in knowledge that storm drains are separate from sanitary sewer

243   systems, a 10% increase in the awareness that all storm drains are connected to local

244   waterways, and a 15% increase in the number of participants who can identify residential

245   sources of stormwater pollution.

246

247 **4.0   EDUCATIONAL METHODS AND APPROACHES**

248

249 A variety of methods and approaches will be utilized to implement the program

250 objectives. As described above, the Regional Residential Education Program objectives

251 are 1) to maintain a consistent image and brand 2) use positive messages to change

252 behavior 3) develop community partnerships and 4) develop strategies to assess program

253 effectiveness. The following regional program elements are designed to meet these

254 objectives:

255   • Standardized Regional Brand (Think Blue)

256   • Regional Think Blue Website

257   • Mass Media (Broadcast and Outdoor)

258   • Regional Outreach Materials (Development and Distribution)

259   • Regional Outreach Event

260   • Partnerships

261   • Regional Stormwater Hotline

262   • Public Relations

263

264 Some of the elements are designed for program management whereas others are outreach

265 methods. Program management elements include standardizing the Think Blue brand,

266 message and material development, and partnership development. The program will

267 have a multi-faceted outreach approach utilizing a regional website, mass media

268 (broadcast and outdoor), public relations, printed materials and promotional items, and

269 regional outreach such as a community event. Implementation of all the

270 recommendations is dependent on funding for each year. Therefore, some activities may

271 be feasible only if sufficient or additional funds are available in a given year.

272

4.1 Standardized Regional Brand (Think Blue)

The Think Blue campaign has created a locally recognizable brand that has demonstrated effectiveness in stormwater outreach. Expanding the brand to the regional program has obvious benefits for all of the Copermittees. With a consistent look and brand, the Copermittees can continue to conduct their own outreach; however they can use the Think Blue brand in conjunction with their materials for consistency. There will be a Think Blue Graphic Standards Guide that provides the correct fonts, colors and standards to be used for all outreach materials. This will help reinforce the Think Blue brand and provide standards for its use in messages and materials. Messages and materials may need to be continuously revised in order to keep current and effectively reach target audiences.

4.2 Regional Think Blue Website

A regional Think Blue website will help build upon and reinforce the branding strategy. The Internet is a powerful means of communication. Web sites can reach large audiences with relatively minimal effort. The regional website will be developed and maintained by a contractor. It could contain easy to download, user friendly information sheets, links to Copermittees websites, and short surveys or quizzes. The regional web site, along with the new logo and slogan, will increase program visibility.

4.3 Mass Media

Although the website is an important component of the outreach efforts, many residents still get the great bulk of their environmental messages from more traditional venues such as the television and radio (broadcast media). Public Service Announcements (PSA) and advertisements are the most common forms of broadcast media. Some PSAs have already been developed under the Think Blue campaign and through the combined efforts of the Copermittees. The Copermittees can utilize funds to expand or complement the existing Think Blue campaign. The public relations component will involve news coverage such as news stories, interviews, and event coverage. Public relations provide valuable outreach opportunities that will be sought whenever possible. Outdoor media

303   such as bus placards and billboards can also be utilized for outreach. The location of

304   outdoor media advertisements will need to be carefully placed in order to reach the

305   regional target audience.

306

307   **4.4**   <u>**Regional Outreach Materials and Community Events**</u>

308   Print materials and promotional items are critical items for successful outreach.

309   Materials include items like fact sheets, brochures, flyers, booklets, coupon booklets,

310   posters, and doorknob hangers. These materials are easily created and the target audience

311   can refer to them repeatedly. Promotional materials are good for promoting the regional

312   brand, increasing knowledge and awareness, and encouraging simple actions to prevent

313   stormwater pollution. They will be designed to also serve as visual prompts that remind

314   people to choose behaviors that protect and improve water quality.

315

316   A regional outreach event can be an energizing and successful venue for distributing

317   outreach messages. Careful attention should be given to participating in a community

318   event so that the effort reaches residents from the entire region. Extensive planning,

319   material or display development, coordination, and marketing will be necessary in order

320   to prepare for one successful regional outreach event. This is an endeavor that will

321   involve identifying events that reach the entire region as well as coordinating, funding,

322   and staffing the selected event. The Copermittees expect to participate in up to two

323   regional events over the duration of this permit cycle. Some examples of regional events

324   that may be considered are the San Diego County Fair, the Miramar Air Show, or a local

325   sports venue.

326

327   **4.5**   <u>**Partnerships**</u>

328   Partnerships are both a management and outreach element of the program. A partnership

329   is a voluntary collaboration of agencies, organizations, or other groups or individuals that

330   have joined to work toward a common goal. The Copermittees can maximize resources

331   through the use of partnerships. The potential for partnerships is immense for the

332   Copermittees. Potential partnerships include local water districts (combine conservation

333   and pollution prevention messages), hardware stores and nurseries, pet stores, and

334   Homeowner's Associations and Property Management Companies. Initial development

335   of partnerships with businesses and business organizations, nonprofits, other government

336   agencies, will be necessary before the full benefits can be realized. Copermittees may

337   then encourage partners to distribute materials or spread messages through signage,

338   advertising and websites. Partnerships will require time to develop and may not be fully

339   recognized until later in the permit cycle.

340

341   **4.6   Regional Stormwater Hotline**

342   Although a regional stormwater hotline is already in place, successful outreach may lead

343   to an increase in hotline calls. The regional hotline can also help the public gain access to

344   information quickly and easily. The hotline will be promoted through the website, media

345   advertising and other promotional venues. The number of calls to the hotline can be

346   tabulated to help gauge whether some advertising is effective (if the call to action is a

347   hotline call). Since the hotline will also be an important measure of program success,

348   careful consideration will be given to managing the hotline as the program

349   implementation moves forward.

350

351   **4.7   Behavior Specific Outreach Methods**

352   Table 3 lists the primary target behaviors for the program during this permit cycle. The

353   table indicates which of the outreach methods described above may be utilized to deliver

354   messages designed for each behavior. These were selected as the primary targets because

355   they have current appeal.   Primary target behaviors may be updated as program

356   evaluation progresses. If necessary, resources may be reallocated to address the other

357   (secondary) target behaviors previously listed in Table 2.

358 **Table 3) Applicability of Outreach Methods to Primary Target Behaviors**

Primary Target Behaviors	Potential Methods of Outreach						
	Website	Mass Media Broadcast	Mass Media Outdoor	Public Relations	Material Distribution	Partnerships	Regional Community Events
Pick up pet waste and dispose of in trash bin	X	X	X	X	X	X	
Reduce over-irrigation by regularly inspecting and maintaining irrigation systems	X			X	X	X	X
Apply chemicals to lawn and garden only as needed	X	X		X	X	X	X
Use organic or slow-release fertilizers	X	X		X	X	X	X
Collect grass clippings and dispose of them in the proper container	X				X		
Employ Integrated Pest Management	X	X	X		X	X	X
Sweep outside areas instead of hosing them down	X		X		X		
Put litter and cigarette butts in trash cans or bins	X			X	X	X	X

359 Specific messages will be developed to increase knowledge and awareness that will lead to each desired
360 behavior outcome

361

362 **4.8   Program Implementation**

363 While the overall goals of the program are to educate the general public in order promote
364 knowledge and awareness and decrease pollutant generating behaviors, a successful
365 program will also require coordination among the Copermittees. Program planning and
366 message development are key components of the program that will precede full
367 implementation. Message delivery will be ongoing. Subsequently, as results from
368 assessments are reviewed, messages and delivery methods will need to be revised.
369 Therefore, there are essentially three steps in the program implementation process 1)
370 development, 2) implementation, and 3) assessment. For the purposes of this report, the

371 development phase includes planning projects as well as developing materials and

372 messages. Implementation includes initiating a program element (such as media

373 outreach) as well as maintaining the ongoing nature of the element once it is in place.

374 Assessment includes all levels of determining the effectiveness of program elements, as

375 well as making revisions that reflect the knowledge gained through assessment.

376

377 Table 4 charts the schedule of program implementation over the 5-year permit cycle.

378 Strategies to achieve these objectives will be implemented over the 5-year permit cycle.

379 Because some upfront planning and development is necessary, the first year will focus on

380 standardizing a regional brand, developing messages, and determining the most

381 appropriate methods for disseminating messages on a regional scale (i.e.: a regional

382 website). Copermittees may also begin fostering partnerships in the initial years of the

383 program. Subsequent years will build on this foundation. Copermittees may decide to

384 refine messages and could begin leveraging resources through partnerships.

385

386 **Table 4) Projected General Implementation Schedule**

Program Elements	Year 1: 2007-08	Year 2: 2008-09	Year 3: 2009-10	Year 4: 2010-11	Year 5: 2011-12
Branding	D	D, I, A	I, A	I, A	I,
Regional Website	D	D, I, A	I, A	I, A	I,
Regional Hotline	D	D, I	I, A	I, A	I,
Mass Media	D	D, I	I, A	D, A	I,
Regional Outreach (Marketing and Community Events)	D	D, I	I, A	D, A	I,
Materials Development & Distribution	D	D, I, A	D, I, A	D, A	D, I
Public Relations	D	D, I	I, A	D, A	I,
Market Research & Assessment Tools	D, I, A	D, I, A	D, I, A	D, I, A	D, I,
Partnerships	D, I	D, I,	I, A	I, A	I

387 Development (D), Implementation (I), Assessment (A)

388 **4.9   Social Marketing Approaches**

389 In all of the aforementioned efforts, a variety of social marketing approaches will be

390 utilized whenever possible. There are so many techniques described as social marketing

391 that it is not possible to utilize them all, especially with limited staff and budgets. Social

392 marketing uses many of the principles of social psychology and marketing techniques to

393 bring about behavior change. Rather than being product oriented, social marketing

394 focuses on people and their behaviors. All social marketing approaches use audience

395 research to learn how to motivate an audience to change one or more recurring actions.

396

397 Social marketing consists of several basic components that result in delivering messages

398 that will increase knowledge and awareness, thereby prompting people to change certain

399 behaviors. The challenge is to present the new behavior in a positive way and emphasize

400 the benefits to adopting a new behavior. Forming strategic partnerships with community

401 resources can help to achieve the end goal of behavior change. Social marketing

402 campaigns deliver messages that are strategically created and positioned to give people a

403 compelling reason to adopt a new behavior. In order to overcome the barriers to action it

404 is necessary to understand what the barriers are and why they exist. Researching and

405 understanding the audience is a critical step in developing a social marketing campaign.

406 Messages are conveyed through advertising, websites, materials and other

407 communications. Messages should be simple, memorable and easy to follow. There

408 should be one simple message for each of the targeted areas of knowledge and awareness.

409 Each message needs to be used consistently in communications.

410

411 Community Based Social Marketing (CBSM) is a type of social marketing. It has gained

412 popular appeal among the environmental community as an effective alternative to

413 traditional information-based marketing approaches. CBSM packages basic principles of

414 behavior change and social science research in a way that provides a usable framework

415 for practitioners working to promote positive behavior change.

416

417 A key element of the CBSM approach is to pilot test the program with a small

418 representative segment of the community, and compare the results to a control group.

419 For example, a small jurisdiction may implement a project that essentially serves as a

420 pilot for the regional program. If the pilot is not successful, the strategy should be refined

421 and then pilot tested again. If the pilot is successful at changing behavior, the strategy

422 can be implemented more broadly throughout the community or on a regional level.

423 Once the successful pilot program has been widely implemented CBSM requires that the

424 program be carefully evaluated at several points to measure continued success.

425

426 The Copermittees have agreed that CBSM offers a solid foundation for developing an

427 effective program. However, it may not always be feasible to utilize the CBSM approach

428 on a regional scale, hence the need for a combined approach that uses traditional social

429 marketing techniques as well as CBSM. Some methods will lend themselves more

430 readily to developing CBSM based approaches. When implementing each of the

431 methods, a CBSM approach will be pursued whenever feasible.

432

433 **5.0 RELATIONSHIP OF REGIONAL, WATERSHED, AND**

434   **JURISDICTIONAL OUTREACH**

435

436 The Regional Residential Education Program is designed to meet the Permit requirements

437 for residential education based on regional needs and issues. The first step in meeting

438 these requirements is to establish a regional brand and consistent image. The City of San

439 Diego's regionally recognized Think Blue logo will be utilized as the Regional

440 Residential Education Program's brand. During the implementation phase of the permit

441 cycle the Copermittees will work collaboratively with the City of San Diego to update

442 and standardize the Think Blue brand. A Graphics Standards Manual will be developed

443 by the City of San Diego and adopted by the Copermittees in order to facilitate ease of

444 material development and ensure a consistent regional image. Existing jurisdictional

445 programs may also choose to use the Think Blue brand, maintain individuality, or

446 combine both programs for maximum impact. In a similar manner, watershed activities

447 may be coordinated under the Think Blue brand, so long as the standards are adhered to.

448

449 Copermittees will hire a contractor to build and maintain a regional Think Blue website.

450 The website may include links to jurisdictional program, watershed program websites,

451   and other regional websites such as Project Clean Water. The regional Think Blue

452   website will provide user friendly information for the public in a single location, thereby

453   promoting consistency and coordination among the regional, jurisdictional, and

454   watershed programs.

455

456   In addition, the Education & Residential Sources Workgroup provides a platform for

457   integration of regional, jurisdictional, and watershed messages.   The Education &

458   Residential Sources Workgroup also coordinates activities between non-profit

459   organizations, private institutions, and governmental agencies providing environmental

460   and water quality education. Regular meetings will continue to provide a forum for

461   educators, trainers, and public information officers to collaborate, share methods and

462   materials, and seek policy level support and direction.

463

464   Watershed and jurisdictional programs should look to the Regional Residential Education

465   Program when designing residential educational activities. The Regional Residential

466   Education Program can thereby serve as a basis for developing these other programs.

467   Some specific watershed or jurisdictional issues may not be covered by the Regional

468   Residential Education Program, and must still be met by the individual or Watershed

469   Copermittees as required by the Permit. These issues will be addressed in the watershed

470   or jurisdictional programs. In this manner, the watershed and jurisdictional programs can

471   supplement the Regional Residential Education Program in order to ensure that all

472   requirements are met. As a result, each jurisdictional program may be unique in some

473   respects and elements of the watershed programs may go beyond those in the regional

474   program.

475

476   While the regional program may play a role in encouraging behavior changes, it is more

477   feasible for jurisdictional programs to be able to measure actual behavioral changes

478   resulting from increased knowledge and awareness because of their ability to implement

479   pilots on a small scale. The broad based regional program will be implementing methods

480   and utilizing assessment tools that most accurately gauge attitudes, knowledge, and

481 awareness. Positive changes in attitudes and awareness are generally accepted as
482 precursors to behavior change. Therefore, due to the difficulty of assessing behavior
483 change on a regional level, demonstrating behavior change will therefore reside with the
484 jurisdictional and watershed programs. In order to facilitate the assessment of
485 jurisdictional and watershed programs, the Plan outlines assessment tools for measuring
486 changes in knowledge and awareness through the regional program. These measures can
487 also be tailored to meet the needs of the jurisdictional and watershed programs that
488 implement CBSM pilots or focused outreach efforts, which provide excellent
489 opportunities to assess behavior change. Section 6.0 describes assessment tools in further
490 detail.

491

492 **6.0   ASSESSMENT OF REGIONAL EDUCATION ACTIVITIES**

493 In order to evaluate whether the various components of the program are resulting in the
494 targeted knowledge and awareness outcomes, a number of assessment methods may be
495 utilized. A random digit dial telephone survey will be the primary tool for measuring
496 changes resulting from implementation of the regional program. Different types of
497 assessment methods will be employed in order to gauge the outcomes of each activity and
498 thereby determine effectiveness. Copermittees will review and assess existing survey
499 data while developing the new regional baseline survey. Public opinion surveys will be
500 alternated with other assessment methods to adequately assess the overall effectiveness of
501 the Regional Residential Education Program. Copermittees have agreed to work
502 cooperatively on funding and conducting market research and surveys. Measurement
503 tools outlined in the Plan may be modified somewhat to correspond with different
504 program elements. The Plan basically provides a model for program effectiveness
505 assessment. Specific assessment methods will depend on the type of outreach or
506 education activity conducted and other constraints.

507

508 Copermittees will work with the City of San Diego to conduct a county-wide random
509 digit dial telephone survey in order to obtain baseline information on knowledge,
510 awareness, attitudes, and behaviors pertaining to stormwater. Results of the survey will
511 guide further adaptation of the program objectives. Ideally, another public opinion

512 survey will be conducted later in the permit cycle to assess any changes resulting from

513 program implementation. Once the baseline is established, future permit cycles may

514 involve one or more public opinion surveys. Additional evaluation methods may be

515 utilized once specific media, promotions, and outreach activities are implemented.

516 Results will enable Copermittees to determine the most effective outreach methods and

517 make modifications to the programs as needed.

518

519 Outcome levels used in this program are based on the Hierarchy of Targeted Outcomes

520 Pyramid referred to in the NPDES Permit, which includes outcome levels 1-6. Outcome

521 levels 1-3 will be most applicable to educational and outreach activities. Table 5

522 illustrates potential assessment methods that may be utilized for each of the activities

523 being considered. Level 1 outcomes indicate compliance with permit based activities.

524 This is the most basic means of assessing program effectiveness. Measuring Level 2

525 outcomes will indicate changes in attitudes, knowledge and awareness. Surveys and

526 quizzes provide the most common means for measuring Level 2 outcomes. Level 3

527 outcomes provide an opportunity to measure behavioral changes and implementation of

528 Best Management Practices (BMPs). This can be accomplished through observations and

529 program specific counts. For example, tracking sales of less toxic pesticides in a store

530 where IPM information is available may indicate changes in the behavior of consumers.

531 Level 4 outcomes indicate actual load reduction, and are more practical for activities such

532 as clean up events or Household Hazardous Waste collection activities, which are

533 sometimes associated with outreach activities.

534 **Table 5) Potential Program Element Assessment Measures**

535

Activity/ Level	Type of Assessment Measure

Branding

1	Updating materials to reflect new regional brand.
2	Count number of survey respondents who are aware of brand/program.
3	N/A
4	N/A

Website

1	Count number of hits to website, interactive use/quizzes taken, etc.
2	Administer survey/quiz to assess attitude/knowledge of web users.
3	Administer survey/quiz to assess behavior change and compare to pilot, historical, or control data. Downloads of informational brochures.
4	N/A

Mass Media/Public Service Announcement (PSA)/Public Relations

1	Count number of household/individuals reached.
2	Administer survey/quiz to assess attitude/knowledge of PSA recipients.
3	Comments and feedback received regarding PSA via the hotline or website.
4	N/A

Outreach Materials (i.e.: fact sheets and brochures)

1	Count number of fact sheet/brochures handed out.
2	Administer survey/quiz to assess attitude/knowledge of fact sheet/brochure recipients
3	Administer survey/quiz to assess behavior change and compare to pilot, historical, or control data.
4	N/A

Regional Outreach Event

1	Count number of visitors to booths, brochures handed out, surveys/quizzes completed, etc.
2	Count number of mail-in cards, number of volunteers to organization, number of persons who attended community event. Administer survey/quiz to assess attitude/knowledge of visitors
3	Administer survey/quiz to assess behavior change and compare to pilot, historical, or control data.
4	N/A

536

Partnerships

1	Count number of incentives distributed, participants in the program.
2	Survey or quiz to assess attitude/knowledge of volunteers pre- and post- participation
3	Administer survey to assess behavior change in program participants or count observable behavior of program participants and compare to pilot data, historical data, and/or control group. Count number of mail-in cards, number of volunteers to organization, or number of persons who signed a petition directed from incentive program.
4	Count amount of load reduction in targeted residential area or count amount of load removed from targeted area

Hotline

1	Count number of calls to hotline.
2	Administer survey/quiz to assess attitude/knowledge of hotline users.
3	Administer survey to assess behavior change of participants in program and compare to pilot, historical, or control data, count observable behavior of participants in program and compare to pilot data and/or control group.
4	N/A

537

538 **7.0   CONCLUSIONS AND RECOMMENDATIONS**

539

540   The San Diego region has widely diverse socio-economic, ethnic, biological, and

541   physical characteristics.   These characteristics create the region's appeal and present

542   many challenges to the entities charged with developing and implementing an effective

543   Regional Urban Runoff Management Program (RURMP).

544

545   The Regional Residential Education Program is a component of the San Diego RURMP.

546   This program is designed to increase knowledge and awareness of stormwater issues and

547   potentially change pollutant generating behaviors.   Research indicates that these are

548   attainable goals under a well-funded, long term, multi-faceted and strategic public

549   outreach campaign.

550

551   In order to implement program goals, the Copermittees have agreed on general

552   objectives: 1) maintain a consistent image, message and brand 2) use positive messages

553   to increase knowledge and awareness, thereby increasing the likelihood of behavior

554   change 3) develop community partnerships and 4) develop strategies to assess program

555   effectiveness.   In order to efficiently accomplish these objectives, Copermittees have

556   agreed to adopt Think Blue as the regional flagship brand.   In addition, strong and

557   focused outreach messages will be selected to increase knowledge and awareness and

558   ultimately target the primary pollutant generating behaviors from residential activities.

559

560   The basic program elements include an array of methods and approaches that will be

561   utilized for program management, message delivery, and effectiveness assessment. Over

562   time, the Regional Residential Education Program will be adapted to utilize the most

563   effective outreach and education strategies practicable while maintaining a clear focus for

564   the entire region. Annual reports will summarize progress and provide an opportunity to

565   reflect on the year's successes and shortcomings. At the end of the 5-year permit cycle,

566   Copermittees will be able to assess of the program's progress and develop more effective

567   regional outreach strategies.